

Remarks

I. Claim Rejections – 35 U.S.C. § 103(a)

Claims 18 and 20-25 are not unpatentable over *Baker* in view of *Kiyoshi* or *PCI RCI System*.

The Examiner rejected claims 18 and 20-25 under 35 U.S.C. 103(a) as being unpatentable over Baker, U.S. 6,115,159 ("*Baker*") in view of Kubo Kiyoshi et al., Japanese Patent No. 57-173237 ("*Kiyoshi*") or Product Brochure, "PCI RCI System," Fiber Optic Extender for Camera Link or LVDS (ALA) C ("*PCI RCI System*"). *July 28, 2006 Office Action*, at par. 3, pages 2-4.

The Applicant has amended claim 18, and traverses the rejection.

1. Claim 18 has been amended.

Claim 18 has been amended to clarify that the camera-mountable optical transceiver converts a first electrical signal having at least one baseband television signal into a downstream optical signal and converts an upstream optical signal into a second electrical signal having at least one baseband television signal.

Support for this amendment may be found in the specification at least at Figures 3A and 3B (references 46, 30 and 38), and paragraph [0034], as follows:

"[T]he present system operates directly with *baseband television signals* (e.g., composite, HDTV, SDI or other)...[a]ccordingly, *baseband television signals* designated BCA originate from the camera 48 and are coupled to the camera transceiver unit 46 via cables 50. The electrical signals BCA are converted to optical signals OBCA for transmission downstream on fiber optic cable 30 to the base station transceiver unit 38....The BCU signals are converted to optical signal OBCU which is carried upstream on fiber optic cable 30."

2. The combination of references cited by the Examiner does not disclose all the elements of the claimed invention.

Claim 18, as amended, is patentable over *Baker* and *Kiyoshi* or *PCI RCI System* because the combined references do not disclose all the elements of claim 18.

“To establish *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.” M.P.E.P. § 2143.03, *citing, In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *Id.*, *citing, In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (CCPA 1970).

The combination of *Baker* and *Kiyoshi* or *PCI RCI System* does not disclose at least one element of amended claim 18, either directly or inherently. The combination does not disclose the camera-mountable optical transceiver converting a first electrical signal having at least one *baseband television signal* into a downstream optical signal and converting an upstream optical signal into a second electrical signal having at least one *baseband television signal*.

Instead of processing baseband television signals, the invention in *Baker* processes “electrical signals CA and CU,” which are “conventional television signals typically arranged in a frequency division multiplex (FDM) format of the individual video, audio, and control signals...” *Baker*, at col. 3, lines 55-58.

As shown in *Baker* Figure 2, the CCU Interface Unit (reference 22) converts conventional electrical signal CU into optical signal OCU, and converts optical signal OCA into conventional electrical signal CA. With further reference to *Baker* Figure 2, Camera Interface Unit (reference 24) converts conventional electrical signal CA into optical signal OCA, and converts optical

signal OCU into conventional signal CU.

These conversions are described in the *Baker* specification: "control interface unit 22 converts electrical signal CU received on triaxial cable 14A to provide optical signal OCU on fiber optic cable 30. The optical signal OCU is transmitted on fiber optic cable 30 to the camera interface unit 24 where it is converted back to electrical signal CU and coupled to the triaxial cable 14B and passed to camera 12. In a similar manner, the camera interface unit 24 converts electrical signal CA received from the camera 12 on triaxial cable 14B to provide optical signal OCA which is transmitted on fiber optic cable 30 to the control interface unit 22. The control interface unit 22 converts the optical signal OCA back to electrical signal CA for transmission to the CCU 10 on triaxial cable 14A." *Baker*, at col. 3, lines 36-48.

In contrast, the present invention does not handle conventional television signals, as stated in the specification, "[r]ather than dealing with FDM formatted signals the present system operates directly with *baseband television signals* (e.g., composites, HDTV, SI or other), thereby avoiding all together the need for expensive and complex triaxial adapters at either end of the connection." *Specification*, at paragraph [0034].

3. Claims 18 and 20-25 are patentable over the cited references.

Clearly then, the present invention is distinguishable from *Baker*, because *Baker* does not disclose the camera-mountable optical transceiver converting a first electrical signal having at least one baseband television signal into a downstream optical signal and converting an upstream optical signal into a second electrical signal having at least one broadband television signal. Further, this limitation is not disclosed in either of the other two cited references, *Kiyoshi* or *PCI RCI System*. Claim 18 then, as amended, is patentable over the cited references.

Claims 20-25, which are dependent upon claim 18, must also be patentable, since “[i]f an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.” M.P.E.P. § 2143.03, *citing, In re Fine*, 837 F.3d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

II. Claim Rejections – 35 U.S.C. § 103(a)

Claims 1, 3-14 and 26-27 are not unpatentable over *Desmons* in view of *Kiyoshi* or *PCI RCI System*.

The Examiner rejected claims 1, 3-14 and 26-27 under 35 U.S.C. 103(a) as being unpatentable over *Desmons*, U.S. 5,150,442 (“*Desmons*”) in view of Kubo Kiyoshi et al., Japanese Patent No. 57-173237 (“*Kiyoshi*”) or Product Brochure, “PCI RCI System,” Fiber Optic Extender for Camera Link or LVDS (AIA) C (“*PCI RCI System*”). July 28, 2006 Office Action, at par. 4, pages 4-8.

The Applicant has amended claims 1, 14 and 26, and traverses the rejection.

1. Claims 1, 14 and 26 have been amended.

Claim 1 has been amended to clarify that the transceiver receives DC power from at least one of the camera or a power source coupled to the camera. Claim 14 has been amended to clarify that the transmitter receives DC power from at least one of the camera or a power source coupled to the camera.

Support for these amendments may be found in the specification at least at Figures 3A (reference 44), Figure 4A (references 195 and 196), and paragraph [0038], as follows:

“An auto-select circuit 198 selects between 12 VDC power signal 196 from the camera and the 12 VDC battery signal 195 to supply a power supply 156 that distributes power via distribution lines 156A.”

Claim 26 has been amended to clarify that the transceiver receives DC power from at least one of a power source disposed within the housing or a power source external to the housing.

Support for this amendment may be found in the specification at least at Figures 5A (references 220 and 238), and paragraph [0054], as follows:

“The base station transceiver unit receives a DC input power signal 220 that connects to a power supply 254. The power supply also receives an input from an internal battery line 238 and distributes power to lines 254A.”

Claims 1, 14 and 26 are patentable over the cited references for at least two reasons. First, the cited references teach away from the claimed invention, and thus cannot be used to establish a *prima facie* case of obviousness. Second, even if the cited references are combined, the combined references do not disclose all the elements of claims 1, 14 and 26.

2. The references cited by the Examiner teach away from the claimed invention.

“[A]n applicant may rebut a *prima facie* case of obviousness by showing that the prior art teaches away from the claimed invention in any material respect.” *In re Peterson*, 315 F.3d 1325, 1331 (Fed. Cir. 2003); *see also Gillette Co. v. S.C. Johnson & Son, Inc.*, 919 F.2d 720, 724 (invention not obvious where closest prior art reference “would likely *discourage* the art worker from attempting the substitution suggested...”) (emphasis in original).

Here, *Desmons* teaches away from the claimed invention. Specifically, *Desmons* teaches the advantages of a triaxial electrical cable. Specifically, *Desmons* teaches a cable “having a combined electrical / optical structure, the electrical part of which is of the *triaxial* type,” *Desmons*, at col. 2, line 15, because a triaxial structure “is very sturdy; it has the advantage of

being almost universal and enables the transmission of the supply, the back-up service signals and the grounding,” *Desmons*, at col. 2, lines 6-9. The triaxial cable is designed to transmit signals “by frequency division multiplexing.” *Desmons*, at col. 1, lines 20-24.

In direct contrast, the claimed invention uses a fiber optic cable to eliminate or alleviate at least some of the problems resulting from the use of a triaxial electrical cable. “Fiber optic cable eliminates all types of electromagnetic and radio frequency interference as well as ground faults and hum.” *Specification*, at paragraph [0010]. The present invention “eliminate[s] the need for triaxial adapters or other electrical cables at the camera and remote equipment.” *Specification*, at paragraph [0010]. In addition, unlike *Desmons*, the claimed invention does not transmit signals by frequency division multiplexing. “Rather than dealing with FDM formatted signals, the present system operates directly with baseband television signals...thereby avoiding altogether the need for expensive and complex triaxial adapters....” *Specification*, at paragraph [0034].

Clearly then, *Desmons* teaches away from the claimed invention.

3. Even if proper, the combination of references cited by the Examiner does not disclose all the elements of the claimed invention.

Claims 1, 14 and 26, as amended, are patentable over *Desmons* in view of *Kiyoshi* or *PCI RCI* System because the combined references do not disclose all the elements of claims 1, 14 and 26.

“To establish *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.” M.P.E.P. § 2143.03, *citing, In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *Id.*, *citing, In re Wilson*, 424 F.2d

The combination of *Desmons* and *Kiyoshi* or *PCI RCI System* does not disclose at least one element of amended claims 1, 14 and 26, either directly or inherently. Specifically, with respect to claim 1, the combination does not disclose that *the transceiver receives DC power from at least one of the camera or a power source coupled to the camera*. With respect to claim 14, the combination does not disclose that *the transmitter receives DC power from at least one of the camera or a power source coupled to the camera*.

Instead of receiving power from the camera, or from a power supply coupled to the camera, the transmitter at the camera head in *Desmons* receives power from the remote control unit, through the combined electrical/optical cable. As shown in Figure 2, "[t]he supply to the camera head 10 is controlled by the control unit 20. To this end, in the control unit, 20, the supply signals are first of all filtered in a filter, 25, and transmitted to the camera head 10, through the conductors C1 and C2 of the combined cable 30. At reception, in the camera head 10, the supply signals coming from the control unit 20 are again filtered in a filter 15." *Desmons*, at col. 4, lines 15-21.

With respect to claim 26, the combination does not disclose that *the transceiver receives DC power from at least one of a power source disposed within the housing or a power source external to the housing*. As shown in Figure 2, the control unit (reference 20) in *Desmons* receives its power supply solely from an external source.

4. Claims 1, 3-14 and 26-27 are patentable over the cited references.

Clearly then, the present invention is distinguishable from *Desmons*. With respect to claims 1 and 14, the present invention is distinguishable because *Desmons* does not disclose that

the camera transceiver unit, or the transmitter in the camera transceiver unit, *receives power from one of the camera or a power supply coupled to the camera*. Further, this limitation is not disclosed in either of the other two references, *Kiyoshi* or *PCI RCI System*. Claims 1 and 14 then, as amended, are patentable over the cited references.

With respect to claim 26, the present invention is distinguishable because *Desmons* does not disclose that the transceiver in the base station *receives DC power from at least one of a power source disposed within the housing or a power source external to the housing*.

Claims 3-13, which are dependent upon claim 1, and claim 27, which is dependent upon claim 26, must also be patentable, since “[i]f an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.” M.P.E.P. § 2143.03, *citing, In re Fine*, 837 F.3d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

III. Claim Rejections – 35 U.S.C. § 103(a)

Claims 1-2, 14-16 and 18-19 are not unpatentable over *Baker* in view of *Kiyoshi* or *PCI RCI System*, and further in view of *Hurwitz* or *Maruichi*.

The Examiner rejected claims 1-2, 14-16 and 18-19 under 35 U.S.C. 103(a) as being unpatentable over *Baker*, U.S. 6,115,159 (“*Baker*”) in view of Kubo Kiyoshi et al., Japanese Patent No. 57-173237 (“*Kiyoshi*”) or Product Brochure, “PCI RCI System,” Fiber Optic Extender for Camera Link or LVDS (AIA) C (“*PCI RCI System*”), and in further view of Hurwitz, U.S. Patent No. 5,568,205 (“*Hurwitz*”) or Maruichi et al., U.S. Patent No. 5,469,211 (“*Maruichi*”). *July 28, 2006 Office Action*, at par. 5, pages 8-10.

The Applicant has amended claims 1, 14 and 18, and traverses the rejection.

I. Claims 1, 14 and 18 have been amended.

Claim 1 has been amended to clarify that the electrical information input signal and the

electrical information output signal each include one or more baseband television signals. Claim 14 has been amended to clarify that the electrical information input signals include at least one baseband television signal. As discussed previously, claim 18 has been amended to clarify that the camera-mountable optical transceiver converts a first electrical signal having at least one baseband television signal into a downstream optical signal and converts an upstream optical signal into a second electrical signal having at least one baseband television signal.

Support for these amendments may be found in the specification at least at Figures 3A and 3B (references 46, 30 and 38), and paragraph [0034], as follows:

“[T]he present system operates directly with *baseband television signals* (e.g., composite, HDTV, SDI or other)...[a]ccordingly, *baseband television signals* designated BCA originate from the camera 48 and are coupled to the camera transceiver unit 46 via cables 50. The electrical signals BCA are converted to optical signals OBCA for transmission downstream on fiber optic cable 30 to the base station transceiver unit 38....The BCU signals are converted to optical signal OBCU which is carried upstream on fiber optic cable 30.”

2. The combination of references cited by the Examiner does not disclose all the elements of the claimed invention.

Claims 1, 14 and 18, as amended, are patentable over *Baker* in view of *Kiyoshi* or *PCI RCI System* and in further view of *Hurwitz* or *Maruichi* because the combined references do not disclose all the elements of claims 1, 14 and 18.

“To establish *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.” M.P.E.P. § 2143.03, *citing, In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). “All words in a claim must be considered

in judging the patentability of that claim against the prior art.” *Id.*, citing, *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (CCPA 1970).

The combination of cited references does not disclose at least one element of the claimed invention, either directly or inherently. The combination does not disclose the use of baseband television signals. Specifically, with respect to claim 1, the combination does not disclose the electrical information signal and the electrical information output signal each including one or more *baseband television signals*. Similarly, with respect to claim 14, the combination does not disclose the electrical information signals having at least one *baseband television signal*, and with respect to claim 18, the combination does not disclose a first and second electrical signal each having at least one *baseband television signal*.

Instead of processing baseband television signals, the invention in *Baker* processes “electrical signals CA and CU,” which are “conventional television signals typically arranged in a frequency division multiplex (FDM) format of the individual video, audio, and control signals....” *Baker*, at col. 3, lines 55-58.

As shown in *Baker* Figure 2, the CCU Interface Unit (reference 22) converts conventional electrical signal CU into optical signal OCU, and optical signal OCA into conventional electrical signal CA, and Camera Interface Unit (reference 24) converts conventional electrical signal CA into optical signal OCA, and optical signal OCU into conventional signal CU.

These conversions are described in the specification: “control interface unit 22 converts electrical signal CU received on triaxial cable 14A to provide optical signal OCU on fiber optic cable 30. The optical signal OCU is transmitted on fiber optic cable 30 to the camera interface unit 24 where it is converted back to electrical signal CU and coupled to the triaxial cable 14B

and passed to camera 12. In a similar manner, the camera interface unit 24 converts electrical signal CA received from the camera 12 on triaxial cable 14B to provide optical signal OCA which is transmitted on fiber optic cable 30 to the control interface unit 22. The control interface unit 22 converts the optical signal OCA back to electrical signal CA for transmission to the CCU 10 on triaxial cable 14A.” *Baker*, at col. 3, lines 36-48.

The present invention, however, does *not* “deal[] with FDM formatted signals” but rather “operates directly with *baseband television signals* (e.g., composites, HDTV, SI or other), thereby avoiding all together the need for expensive and complex triaxial adapters at either end of the connection.” *Specification*, at paragraph [0034]. In the present invention, “*baseband television signals* designated BCA originate from the camera 48 and are coupled to the camera transceiver unit 46 via cables 50. The electrical signals BCA are converted to optical signal OBCA for transmission downstream on fiber optic cable 30 to the base station transceiver unit 38. In a similar manner, the base station transceiver unit 38 converts *baseband television signals* designated BCU originated from the video production facility 11...The BCU signals are converted to optical signal OBCU which is carried upstream on fiber optic cable 30. *Specification*, at paragraph [0034] and Figures 3A and 3B.

3. Claims 1-2, 14-16 and 18-19 are patentable over the cited references.

Clearly then, the present invention is distinguishable from *Baker*, because *Baker* does not disclose electrical information signals having at least one baseband television signal. Further, this limitation is not disclosed in any of the other cited references. Claims 1, 14 and 18 then, as amended, are patentable over the cited references.

Claims 2, which is dependent upon claim 1, claims 15-16, which are dependent upon

claim 14, and claim 19, which is dependent upon claim 18, must also be patentable, since “[i]f an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.” M.P.E.P. § 2143.03, *citing, In re Fine*, 837 F.3d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

IV. Conclusion

For the reasons described above, claims 1-27 are patentable over the prior art cited by the Examiner. As such, it is respectfully submitted that the application is in condition for allowance.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned in Westborough, Massachusetts, (508) 898-1501.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Brian M. Dingman', with a stylized, sweeping flourish extending to the right.

Rcg. No. 32,729